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3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			DESAI, ANISH P	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed on 03/30/09 after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/30/09 has been entered. Support for the amended claim is found in the specification as originally filled.

2. A new 35 USC Section 112-second paragraph rejection is made.

3. In view of applicant's amendment, the 35 USC Section 103(a) rejections based on Babu et al. (WO 93/11184) in view of Davison (US 3,970,771), and Bragole (US 4,859,540) are withdrawn. However, a new 35 USC Section 103(a) rejection based on Babu et al. (WO 93/11184) in view of Davison (US 3,970,771), Bragole (US 4,859,540), Yarusso et al. (US 5,266,400), and as evidenced by Hansen (US 4,141,876) is made.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 28, 31-41, 44, 45, and 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 45, this claim recites “styrene-ethylene-butene-styrene type block copolymer”. The phrase such as “type” is ambiguous because it is not clear as to what is meant by styrene-ethylene-butene-styrene **type** block copolymer. The addition of the word “type” extends the scope of the claims so as to render them indefinite since it is unclear what “type” is intended to convey. The addition of the word “type” to the otherwise definite expression renders the definite expression indefinite by extending its scope. *Ex parte Copenhaver*, 109 USPQ 118 (Bd. App. 1955). As such the Examiner suggests deleting “type”.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 37-41, 44, 45, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Babu et al. (WO 93/11184) in view of Davison (US 3,970,771), Bragole (US 4,859,540), Yarusso et al. (US 5,266,400), and as evidenced by Hansen (US 4,141,876).
6. **With respect to the newly added limitation “prior to being crosslinked”, the Examiner submits that said recitation is interpreted to refer to the PSA (i.e. prior to the PSA being crosslinked).**
7. Regarding claim 45, Babu teaches a PSA tape and a method of making the PSA tape. The PSA tape of Babu includes a radiation curable PSA that is applied onto a support (abstract and page 17 lines 11-24). Additionally, Babu discloses that in some applications primers may be useful for improving the adhesion of the adhesive to substrates (page 17 lines 33-35 to page 18 lines 1-5).
8. According to Babu "Useful primers for the practice of the present invention include triblock copolymer of styrene-ethylene/butylene-styrene grafted with maleic anhydride (Kraton G-1901X copolymer, Shell Chemical Co.) **and** a combination of

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amorphous polypropylene [reads on applicant's non-halogenated polyolefin comprising C2-C30 alpha olefin monomer] and Kraton G1901X copolymer [reads on applicant's "wherein the maleated thermoplastic elastomer is...styrene-ethylene-butene-styrene type block copolymer]." (page 17 lines 34-37 to page 18 lines 1-3). Moreover, Babu discloses that the PSA of his/her invention includes crosslinking agents such as aldehyde or ketone (page 11, lines 25-35) and that the PSA can be crosslinked using actinic radiation (page 13 lines 35-40). Additionally, Babu discloses PSAs comprising alpha-olefins (abstract).

9. With respect to claim 45, it is submitted that the aforementioned disclosure of Babu meets claim limitations "A method of making tape comprising...a non-halogenated polyolefin, wherein C2-C30 alpha-olefin monomer" and step (c) "applying a pressure sensitive adhesive atop the primer, wherein the pressure sensitive adhesive is based on...wherein the second crosslinking agent...sym-traizine". Additionally, as to step (d), Babu discloses crosslinking of adhesive using radiation (pages 13-14).

10. Regarding claim 45, Babu is silent with respect to teaching the primer comprising a hydrocarbon resin having Tg of between about 0°C and about 100°C, a first crosslinking agent that is activated by actinic radiation and type of the first crosslinking agent, applying the PSA atop the primer prior to being crosslinked, and step (d) as relates to applying actinic radiation to crosslink the primer.

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11. However, Davison discloses a substrate that is coated with mixed resin primer comprising a block copolymer. The primer of Davison comprises hydrogenated block copolymer and a resin that is compatible with the non-elastomeric blocks of the copolymer and, in some instances including carboxylated resin (abstract). Further, Davison's invention is related to improving the bonding between "low energy" substrate such as polyolefins and coatings using the primer of his invention (Background of the Invention section of Davison). Moreover, Davison discloses that the end block compatible resins are coumarone-indene (identified by Cumar LX 509 see Example 1 of Davison), olefinic hydrocarbon resin etc. (see column 2 lines 39-57). The Cumar LX 509 resin as taught by Davison has Tg of about 88°C as evidenced by column 5 lines 54-58 of Hansen (US 4,141,876).

12. It is noted that the primer of Babu includes block copolymers which are used to improve the adhesion of the adhesive to substrates such as polyolefins. The secondary reference of Davison is related to improving the bonding between "low energy" substrate such as polyolefins and coatings using primer of his invention (see Background of the Invention). Further, the primer of Davison includes block copolymers and resin such as coumarone-indene.

13. Therefore, regarding claim 45, it would have been obvious to use the resin such as coumarone-indene with Tg of between 0°C and 100°C in the primer of Babu, motivated by the desire to form a primer composition that can be useful in bonding substrates of Babu to the PSA.

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14. Additionally, regarding claim 45, Babu as modified by Davison is silent as to teaching of providing a primer with a first crosslinking agent that may be activated by actinic radiation and a method step (d) as relates to applying actinic radiation to crosslink the primer.

15. However, Bragole discloses a primed surface that is irradiated and an adhesive is bonded to the primer (abstract). According to Bragole "It is believed that the primer becomes engrafted to the polyolefin substrate surface and cross-links during continual exposure to irradiation...The net effect is (1) a stronger union of the primer to the polyolefin surface than is possible without irradiation...adhesives." (column 2 lines 7-20). Further, Bragole discloses that the primer may be irradiated with photosensitizers such as benzophenone, para-chlorobenzophenone in order to increase the effectiveness of the radiation applied thereto (column 10 lines 30-43), which reads on applicant's first crosslinking agents such as ketone.

16. Thus regarding claim 45, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add the crosslinking agent as taught by Bragole and irradiation process as employed in Bragole to crosslink the primer layer, in order to increase the effectiveness of the radiation applied thereto.

17. Given that Babu modified by Davison and Bragole discloses a primer with crosslinking agent and adhesive with crosslinking agent wherein Babu discloses that the primer and adhesive are first applied to the substrate and then subject to radiation to cure, it is clear that the references disclose the requirement of the application of the

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adhesive atop the primer prior to being crosslinked (page 17 line 33-page 18, line 5 and page 33 lines 9-22 of Babu).

18. Alternatively, with respect to claim 45, Babu as modified by Davison and Bragole is silent as to explicitly teaching application of adhesive atop the primer ***prior to being crosslinked***.

19. However, Yarusso discloses a PSA tape comprising electron beam crosslinkable PSA (abstract). Additionally, at column 3 lines 5-10, Yarusso discloses application of a primer to a backing prior to applying an adhesive to the backing. Moreover, Yarusso discloses that the coated tapes are exposed to electron beam radiation from the adhesive said to suitably crosslink the adhesive (column 3 lines 10-15). This disclosure of Yarusso is interpreted to meet applicant's claim requirement of application of the adhesive atop the primer prior to being crosslinked.

20. It is noted that Babu discloses of providing primer in order to improve the adhesion of the adhesive to substrates (page 17 lines 30-35). Additionally, Babu's PSAs are crosslinkable. Yarusso describes a PSA tape in which one can coat the adhesive on a primer and then crosslink the adhesive.

21. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the PSA of Babu atop the primer prior to being crosslinked, motivated by the desire to form a PSA tape of Babu since Babu desires

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formation of a PSA tape and Yarusso provides necessary details to practice the invention of Babu.

22. With respect to claims 37-39, Babu discloses that the PSA is polyolefin based, wherein the PSA is poly alpha olefin comprising six to ten carbon atoms (see abstract, page 4 lines 25-37, page 7 lines 1-17 and lines 30-35, and page 9 lines 15-20).

23. Regarding claim 40, Babu discloses PSA with Tg in the range of -70 to 0°C (page 5 lines 12-20 of Babu).

24. As to claim 41, at page 14 lines 35-37 to page 15 lines 1-3, Babu discloses addition of tackifier resins to the adhesive composition.

25. With respect to claim 44, page 17 lines 25-30 of Babu disclose substrate such as polyethylene and polypropylene.

26. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Babu et al. (WO 93/11184) in view of Davison (US 3,970,771), Bragole (US 4,859,540), Yarusso et al. (US 5,266,400), and as evidenced by Hansen (US 4,141,876) as applied to claim 45 above, and further in view of Janssen et al. (US 6,045,922).

27. Babu as modified by Davison, Bragole, and Yarusso is silent as to teaching polyhexene or polyoctene.

28. However, Janssen is relied upon to show that it is known in the adhesive art to use polyoctene. Specifically, Janssen discloses a PSA comprising poly alpha olefin

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such as polyoctene (abstract and column 3 lines 5-10). Further, Janesen discloses that these polyolefins provide good adhesion, can easily and cleanly be removed if no longer needed, and can be recycled (column 2 lines 34-36).

29. The Examiner submits that, it appears that there is no criticality associated with applicant's selection of either polyhexene or polyoctene. Additionally, the primer layer of Babu includes polyolefin. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polyoctene as disclosed by Janssen, since such material provides good adhesion, can easily and cleanly be removed if no longer needed, and can be recycled .

30. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Babu et al. (WO 93/11184) in view of Davison (US 3,970,771), Bragole (US 4,859,540), Yarusso et al. (US 5,266,400), and as evidenced by Hansen (US 4,141,876) as applied to claim 45 above, and further in view of Hawkins (US 5,846,653).

31. Babu as modified by Davison, Bragole, Yarusso is silent as to teaching claim 31.

32. However, Hawkins is relied upon to show that in adhesive art, it is known to utilize crosslinking agent such as that of claimed by applicant. Specifically, Hawkins discloses a PSA tape comprising a primer layer and a PSA (abstract). Additionally, at column 4 lines 38-39, Hawkins discloses crosslinking agent such as that of claimed by applicant. Additionally, the Examiner submits that it appears that there is no criticality associated with selection of a particular crosslinking agent such as that of claimed by

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applicant in the present invention. As such, it would have been obvious to select a known crosslinking agent such as that of taught by Hawkins and add it to the primer, motivated by the desire to effectively crosslink the primer.

33. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Babu et al. (WO 93/11184) in view of Davison (US 3,970,771) and Bragole (US 4,859,540) Yarusso et al. (US 5,266,400), and as evidenced by Hansen (US 4,141,876) as applied to claim 45 above, and further in view of Mori et al. (US 5,037,885).

34. Babu as modified by Davison, Bragole and Yarusso is silent as to teaching the primer further comprising epoxy resin as claimed in claims 32 and 33.

35. However, Mori discloses a two part primer composition comprising at least one block copolymer such as SEBS that is copolymerized with maleic anhydride and a curing component comprising an epoxy resin having two or more functional groups, which has excellent heat-resistance adhesion and durable adhesion and it is suitable for adhering between polyolefinic substances or between polyolefinic substance and other organic substance (abstract). The epoxy resin as taught at column 2 lines 34-55 of Mori reads on the epoxy resin as claimed in claims 32 and 33.

36. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add the epoxy resin in the primer of Babu motivated by the desire to improve the adhesion of the primer to the polyolefin substrates.

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37. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Babu et al. (WO 93/11184) in view of Davison (US 3,970,771) and Bragole (US 4,859,540) Yarusso et al. (US 5,266,400), and as evidenced by Hansen (US 4,141,876) as applied to claim 45 above, and further in view of Bonk et al. (US 4,731,273).

38. Babu as modified by Davison, Bragole and Yarusso is silent as to teaching the aforementioned claim 34.

39. However, Bonk discloses a heat-recoverable closure (adhesive tape) having a layer of cross-linked PSA (abstract and column 5 lines 55-65). Further, at column 8 lines 5-10, Bonk discloses use of primer for superior bonding of PSA to the low surface energy heat-recoverable sheet (i.e. substrate). At column 8 lines 37-38, Bonk discloses primer composition comprising multi-functional acrylate such as trimethylpropane triacrylate.

40. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the primer comprising multi-functional acrylate, since it has been held that selection of a known material based on its suitability for its intended use establishes a *prima facie* case of obviousness. Alternatively, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the primer comprising multi-functional acrylate to achieve consistently superior bonding of the PSA to the substrate (see column 8 lines 5-10 of Bonk).

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41. Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Babu et al. (WO 93/11184) in view of Davison (US 3,970,771) and Bragole (US 4,859,540) Yarusso et al. (US 5,266,400), and as evidenced by Hansen (US 4,141,876) as applied to claim 45 above, and further in view of Kodomenos (US 4,476,259) as evidenced by Rubino (US 3,979,510).

42. Babu as modified by Davison, Bragole and Yarusso is silent as to teaching the aforementioned claims 35 and 36.

43. However, Kodomenos discloses coating composition that can be used as a primer (abstract). Additionally, at column 15 line 10, Kodomenos discloses that the primer of his/her invention includes additive such as Cab-O-Sil M-5 (trademark), which is fumed amorphous silica (equated to applicant's filler) as evidenced by US Patent 3,979,510 to Rubino (see footnote (1) under Table 1).

44. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the primer comprising fumed amorphous silica, since it has been held that selection of a known material based on its suitability for its intended use establishes a *prima facie* case of obviousness. Alternatively, It would have been obvious to one having ordinary skill in the art at the time the invention was made to add the fumed amorphous silica as an anti-settling or anti-sagging agent to control the properties of the primer (column 15 lines 1-11).

45. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Babu et al. (WO 93/11184) in view of Davison (US 3,970,771) and Bragole (US 4,859,540) Yarusso et al. (US 5,266,400), and as evidenced by Hansen (US 4,141,876) as applied to claim 45 above, and further in view of Groves (US 5,677,376).

46. Babu modified by Davison, Bragole, and Yarusso is silent as to teaching of the aforementioned claim 36.

47. However, Groves discloses a polymer blend comprising a block copolymer and (b) a polymer comprising a polymerization reaction product of two or more mono-ethylenically unsaturated monomers in which at least one of the monomers is acrylic or methacrylic ester...at least one of the monomers is a nitrogen-containing monomer (see abstract). The polymer blends of Groves are useful as adhesives, primers, ink etc. (column 1 lines 10-22). Additionally blends of Groves include filler such as silica (column 4 lines 35-36).

48. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the primer comprising filler, since it has been held that selection of a known material based on its suitability for its intended use establishes a *prima facie* case of obviousness

Response to Arguments

49. Applicant's arguments filed on 03/30/09 have been fully considered but they are moot in view of the new ground(s) of rejection.

Conclusion

50. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANISH DESAI whose telephone number is (571)272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

51. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

52. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. D./
Examiner, Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794